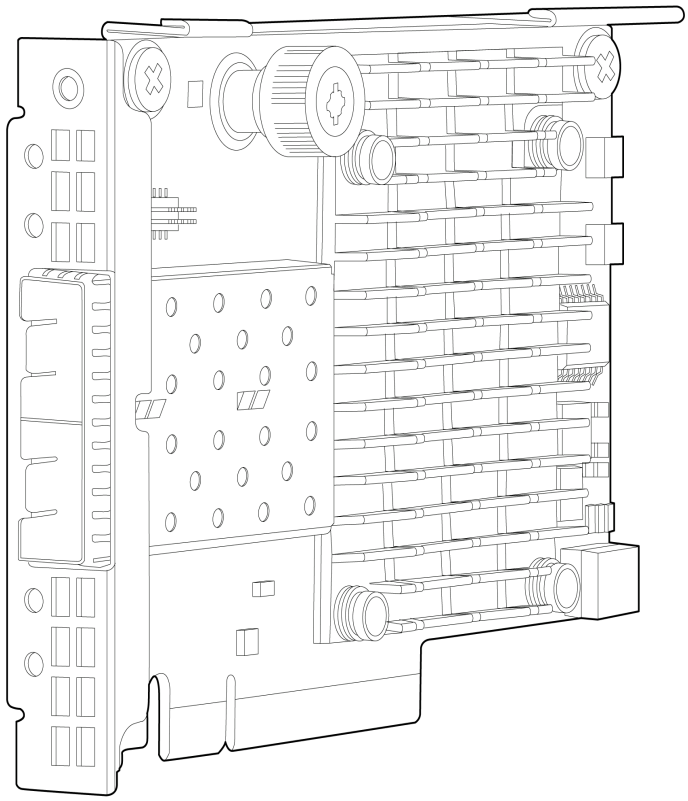
Overview

The HP FlexFabric 10Gb 2-port 526FLR-SFP+ Adapter provides concurrent NIC (Ethernet), iSCSI and Fibre Channel Over Ethernet (FCoE) connectivity in a FlexibleLOM form factor designed for select HP ProLiant Gen8 rack servers. The HP FlexFabric 10Gb 526FLR-SFP+ Converged Network Adapter provides NIC (Ethernet), iSCSI and Fibre Channel over Ethernet (FCoE) connectivity in a dual port PCIe Gen 2.0 x8 lane 10 Gigabit Ethernet in FlexibleLOM form factor designed for select HP ProLiant Gen8 rack and scalable servers. The HP 526FLR-SFP+ based on QLogic P3+ chipset ships with two SFP+ connections suitable for attaching Direct Attach Copper twin axial cables or fiber modules supporting SR fiber optic cabling. Easy to install and configure, the HP 526FLR-SFP+ provides customers the ability to converge multiple I/O needs to a single 10 Gigabit FlexibleLOM. HP customers using separate LAN and SAN adapters can consider this CNA for consolidation requirements, security, high performance and virtualized environments.



Models

HP FlexFabric 10Gb 2-port 526FLR SFP+ Adapter	629138-B21

Kit Contents

- HP FlexFabric 10Gb 2-port 526FLR-SFP+ Adapter
- Quick install card
- Product warranty statement

Compatibility

Servers

ProLiant DL (rack-optimized):

- HP ProLiant DL160 Gen8
- HP ProLiant DL360p Gen8
- HP ProLiant DL380p Gen8
- HP ProLiant DL385p Gen8
- HP ProLiant DL560 Gen8

ProLiant SL (scalable line):

- HP ProLiant SL210t Gen8
- HP ProLiant SL230 Gen8
- HP ProLiant SL250 Gen8
- HP ProLiant SL270 Gen8

NOTE: This is a list of supported servers. Some may be discontinued.

Standard Features

Product Features	• Dual-port 10GbE FlexibleLOM that provides the flexibility to meet growing infrastructure needs. • Industry-leading throughput and latency performance • Up to 40Gb/s bi-directional near line rate throughput • Concurrent protocol support for NIC (Ethernet), iSCSI, FCoE traffic and FCoE Offload • Hardware acceleration and offloads for stateless TCP/IP, UDP, LSO/GSO, LRO • Support for Jumbo Frames • Support for Preboot eXecution Environment (PXE)Support for RSS, Microsoft VMQ/DVMQ, VMware NetQueue, VMDq, MSI-X • Support for Interrupt Coalescence and Promiscuous Mode
Dual-port 10 Gigabit Converged Ethernet Throughput	The HP 526FLR FlexibleLOM delivers 20Gbps full duplex Converged Ethernet transfer rate per port (40 Gbps aggregate full duplex), providing the network and SAN performance needed to improve response times and alleviate bottlenecks that impact performance of next generation data centers. 10Gb Converged Ethernet bandwidth is ideal for I/O consolidation with high performance computing, database clusters, and more.
Jumbo Frames	The HP 526FLR FlexibleLOM supports jumbo frames (also known as extended frames), permitting up to a 9.5K byte (KB) transmission unit (MTU) when running Ethernet I/O traffic. This is over 5X the size of a standard 1500-byte Ethernet frame. With jumbo frames, networks can achieve higher throughput performance and greater CPU utilization. These attributes are particularly useful for database transfer and tape backup operations.
802.1Q VLANs	IEEE 802.1Q virtual local area network (VLAN) protocol allows each physical port of the HP 526FLR FlexibleLOM to be separated into multiple virtual NICs for added network segmentation and enhanced security and performance. VLANs increase security by isolating traffic between users. Limiting the broadcast traffic to within the same VLAN domain also improves performance.
Optimized for Virtualization	I/O Virtualization support for VMware NetQueue and Microsoft VMQ help meet the performance demands of consolidated virtual workloads.
MSI and MSI-X	MSI and MSI-X Message Signaled Interrupt (Extended) provides performance benefits for multi-core servers by balancing interrupts between CPUs/cores load.
TCP/IP Stateless Offloading	TCP, IP, UDP checksum offload, Large Send Offload (LSO), TCP, Segmentation Offload (TSO). These features optimize host efficiency, leaving the CPU available for other duties.
FlexibleLOM slot Compatibility	Compatible with HP FlexibleLOM slot for select HP ProLiant Gen8 Rack and Scale Out servers.

Standard Features

Network Adapter Teaming	The HP 526FLR FlexibleLOM support for NIC teaming helps IT administrators increase network fault tolerance and increased network bandwidth, The team of adapters can work together as a single virtual adapter. The HP 526FLR provides support for several different types of teaming enabling IT administrators to optimize availability, improve performance and help reduce costs.
FCoE Support	The HP 526FLR FlexibleLOM supports 2,048 concurrent logins and 2,048 active exchanges, N_Port ID Virtualization (NPIV) to provide a flexible and scalable I/O solution for connecting to Fibre Channel SAN environments.
iSCSI Support	The HP 526FLR FlexibleLOM support for iSCSI connectivity provides IT administrators the ability to connect to iSCSI SAN storage.

Network Management

Management Support	The HP 526FLR FlexibleLOM can be administered from HP Systems Insight Manager (SIM). The adapters can be managed individually or in teams, providing SNMP based statistics for reporting purposes. The HP 526FLR adapter can also be managed by other applications with SNMP support.
Server Integration	The HP 526FLR FlexibleLOM is a validated, tested, and qualified solution that is optimized for HP ProLiant servers. HP validates a wide variety of major operating systems drivers with the full suite of web-based enterprise management utilities including HP Intelligent Provisioning and HP Systems Insight Manager that simplify network management. This approach provides a more robust and reliable networking solution than offerings from other venders and provides users with a single point of contact for both their servers and their network adapters.
Configuration Utilities	Each HP 526FLR ships with a suite of operating system-tailored configuration utilities that allow the user to enable initial diagnostics and configure adapter teaming. This includes a patented teaming GUI for Microsoft Windows operating systems. Additionally, support for scripted installations of teams in a Microsoft Windows environment allow for unattended OS installations. HP Customers can also utilize QLogic QConverge Console utilities, which is a unified management tool via GUI and command line interface (CLI) that provides management for FCoE, iSCSI and networking functions from a single utility.
LED Indicators	The colored LEDs on each port of the HP 526FLR adapter indicate link status and link activity.
Preboot Execution Environment (PXE)	PXE allows the server to boot over the network and download software residing in the network. The HP 526FLR supports PXE.
HP Sea of Sensors 3D	Support for HP's Sea of Sensors which is a collection of 32 sensors that automatically track thermal activity - heat - across the server. When temperatures get too high, sensors can kick on fans and make other adjustments to reduce energy usage. What makes it better is the upgrade from all six fans kicking on at one time to a new system where only one kicks on - the one in proximity of the area that started heating up - thus reducing the amount of energy used for cooling.

Standard Features

Active Health System	Supports HP Active Health System monitors and records changes in the server hardware and configuration enabling customers to have accurate information that will assist in diagnosing problems and delivering rapid resolution when server failures occur.
Warranty	Maximum: The remaining warranty of the HP product in which it is installed (to a maximum three-year, limited warranty). Minimum: One year limited warranty. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Service and Support

Service and Support

HP Technology Services
HP Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability, and avoid downtime.

Protect your business beyond warranty with HP Care Pack Services
When you buy HP Options, it's also a good time to think about what level of service you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business need.

HP Foundation Care services deliver scalable support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your business needs. New to this portfolio is HP Collaborative Support. If you are running business critical environments, HP offers Proactive Care or Critical Advantage. These services help you deliver high levels of application availability through proactive service management and advanced technical response.

Here is the support service recommendation from the Foundation Care and Proactive Care portfolio. For customized support service solution, HP can work with you to tailor a service solution for your unique support requirements using broader services portfolio of Foundation Care and Proactive Care.

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services

3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service
Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.
http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf

OR

3-Year HP 24x7 4 hour Response, HP Collaborative Support
Offers customers a single point of contact for server problem diagnosis, hardware problem resolution, and basic software problem diagnosis, fault isolation, and resolution if available to HP. If the problem is with HP HW, the representative will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged. In case, the issue is with HP or supported third-party software product and cannot be resolved by applying known fixes, HP will contact the third-party vendor and create a problem incident on your behalf.

HP ProLiant Server Hardware Installation
Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner
http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf

Service and Support

Related HP Care Pack Services to enhance your HP product experience

Related Services	**3-Year HP 24x7 4 hour Response, Proactive Care or Critical Advantage** Helps optimize your systems and delivers high levels of application availability through proactive service management and advanced technical response. A skilled Technical Manager will own your query or issue end to end until resolved, delivering a single point of contact for you http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-2140ENW.pdf **OR** **3-Year HP 6-hour Onsite Call-to-Repair, HP Collaborative Support** Offers customers a single point of contact for server problem diagnosis, hardware problem resolution to return the hardware in operating condition within 6 hours of the initial service request to the HP Global Solution Center, and basic software problem diagnosis, fault isolation, and resolution if available to HP. In case, the issue is with HP or supported third-party software product and cannot be resolved by applying known fixes, HP will contact the third-party vendor and create a problem incident on your behalf. **HP Proactive Select Service** Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf
Insight Remote Support	Provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. Learn more http://www.hp.com/go/insightremotesupport
HP Support Center	Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more http://www.hp.com/go/hpsc HP's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement. *HP' Support Center Mobile App is subject to local availability
Parts and materials	HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.

Service and Support

Warranty / Service Coverage	For ProLiant servers and storage systems, this service covers HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.
For more information	To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: http://www.hp.com/services/proliant or www.hp.com/services/bladesystem

Related Options

Direct Attach Cable	HP BladeSystem c-Class Small Form-Factor Pluggable .5m 10GbE Copper Cable	487649-B21
	HP BladeSystem c-Class Small Form-Factor Pluggable 1m 10GbE Copper Cable	487652-B21
	HP BladeSystem c-Class Small Form-Factor Pluggable 3m 10GbE Copper Cable	487655-B21
	HP BladeSystem c-Class Small Form-Factor Pluggable 5m 10GbE Copper Cable	537963-B21
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	NOTE: Direct Attach Cable (DAC) must be purchased separately for copper environments.	
Fiber Optic Modules	HP BladeSystem c-Class 10Gb Short Range Small Form-Factor Pluggable Option	455883-B21
	NOTE: Fiber transceivers and cables must be purchased separately for fiber-optic environments.	
Fiber Optic Cables	HP 2m LC-LC FC Cable Kit	221692-B21
	5m LC-LC FC Cable Kit	221692-B22
	HP 15m LC-LC FC Cable Kit	221692-B23
	HP 30m LC-LC FC Cable Kit	221692-B26
	HP 50m LC-LC FC Cable Kit	221692-B27
	HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
	HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
	HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
	HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
	HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
	HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A
	NOTE: Fiber transceivers and cables must be purchased separately for fiber-optic environments.	
	NOTE: For additional information on 10Gb cable specifications go to: http://www.hewlett-packard.com/rnd/pdfs/10gig_cabling_technical_brief.pdf	

Related Options

Gigabit Server Adapters	HP NC112T PCI Express Gigabit Server Adapter	503746-B21
	HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI-E Quad Port Gigabit Server Adapter	435508-B21
	HP NC365T 4-port Ethernet Server Adapter	593722-B21
	HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
	HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HP Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HP Ethernet 1Gb 2-port 361T Adapter	652497-B21
10 Gigabit Server Adapters	**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	
	HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	468332-B21
	HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
	HP NC524SFP Dual Port 10GbE Module	489892-B21
	NOTE: NC524SFP is available only on DL370 G6, ML370 G6, DL580 G7, DL585 G7, and DL980 G7.	
	HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
	HP Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
	HP Ethernet 10Gb 2-port 530T Adapter	656596-B21
	HP Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
	HP Ethernet 10Gb 2-port 561T Adapter	716591-B21
	HP Ethernet 10Gb 2-port 570SFP+ Adapter	718904-B21
FlexibleLOM Adapters	**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	
	Ethernet Adapters	
	HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B21
	HP Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
	HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	647581-B21
	HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
	HP Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
	FlexFabric Adapters	
	HP FlexFabric 10Gb 2-port 526FLR SFP+ Adapter	629138-B21
	HP FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
	HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
	HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter	629142-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	

Related Options

HP Converged Network Adapters	HP CN1000Q Dual Port Converged Network Adapter	BS668A
	HP CN1100E Dual Port Converged Network Adapter	BK835A

Technical Specifications

General Specifications	**Network Processor**	QLogic P3+ Controller	
	Data Rate	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth.	
	Bus Type	PCI Express v2.0 (Gen 2) x8 (FlexibleLOM slot)	
	Form Factor	FlexibleLOM	
	IEEE Compliance	802.3x, 802.3ad, 802.1p/ 802.1q, 802.3ae, 802.1Qbb, 802.1Qaz	
Power and Environmental Specifications	**Operating**	Temperature	32° to 131° F (0° to 55° C)
		Humidity	10% to 90% non-condensing
	Power	<20W	
	Emissions	USA: FCC Part 15 Class A; Canada: ICES=--3, Issue 4; Japan: VCCI V3 (2010.04) Class A; International: EN55022:2006 + A1:2007 Class A; International: EN55024:1998+A1:2011+A2; EN61000-3-2:2006, EN61000-3-3:2008; Taiwan: BSMI, CNS13438 (2006) Class A; Australia/New Zealand (AS/NZS): EN55022:2006+A12007 class A; Korea: KN22 Class A, KN24	
	Safety	6 of 6	
	Other	UL Mark (USA and Canada) CE Mark EN 60590	
Operating System Support	Microsoft Windows Server 2008, Server 2008R2, Server 2012 and HPC Server 2008, 32 and 64-bit Microsoft Windows Server Hyper-V Red Hat Enterprise Linux 5.x and 6.0 SLES 10 and 11 VMware 4.0 and 4.1 VMware ESX/ESXi 4.1 and ESXi 5.0 **NOTE:** For more Linux OS support & certification information, please visit our the ProLiant & BladeSystem Server Linux matrix: http://h18004.www1.hp.com/products/servers/linux/hplinuxcert.html		

Technical Specifications

Environment-friendly Products and Approach	**End-of-life Management and Recycling**	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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